

AMENDMENTS TO THE CLAIMS

LISTING OF CLAIMS

1. (original) An interconnect for a semiconductor component having a component contact comprising:

a substrate; and

a compliant conductive layer on the substrate comprising a tip portion for contacting the component contact, a shaped spring segment portion supporting the tip portion, and a hollow interior portion at least partially enclosed by the spring segment portion and the tip portion.

2. (original) The interconnect of claim 1 wherein the shaped spring segment portion has a stepped shape open on two sides.

3. (original) The interconnect of claim 1 wherein the shaped spring segment portion has a dome shape or a conical shape substantially enclosing the hollow interior portion.

4. (original) The interconnect of claim 1 wherein the compliant conductive layer comprises a metal, a conductive polymer or a tape material.

5. (original) The interconnect of claim 1 wherein the compliant conductive layer comprises a conductive polymer comprising a plurality of metal particles configured to penetrate the component contact.

6. (original) The interconnect of claim 1 wherein the tip portion includes a penetrating structure comprising an element selected from the group consisting of points, blades and particles.

7. (original) The interconnect of claim 1 wherein the compliant conductive layer includes a base portion comprises a metal deposited in an opening in the substrate.

8. (original) The interconnect of claim 1 wherein the compliant conductive layer includes a base portion on the substrate and the shaped spring segment portion has a generally conical shape.

9. (original) The interconnect of claim 1 further comprising a plurality of compliant conductive layers corresponding to a plurality of component contacts on the component.

10. (original) The interconnect of claim 1 wherein the component is contained on a semiconductor wafer comprising a plurality of components.

11. (original) The interconnect of claim 1 wherein the component comprises a semiconductor package and the component contacts comprise bumps.

12. (original) The interconnect of claim 1 wherein the component contacts comprise planar pads.

13. (original) The interconnect of claim 1 wherein the component comprises a semiconductor die or a semiconductor package contained on a wafer.

14. (original) An interconnect for a semiconductor component having a component contact comprising:

a substrate; and

a compliant conductive layer on the substrate having a stepped shape and a hollow interior portion, the layer having a base portion on the substrate, a tip portion for

contacting the component contact, and a spring segment portion configured to allow flexure of the tip portion.

15. (original) The interconnect of claim 14 wherein the substrate comprises a material selected from the group consisting of a semiconductor material, a plastic material and a ceramic.

16. (original) The interconnect of claim 14 wherein the compliant conductive layer includes a penetrating structure for penetrating the component contact.

17. (original) The interconnect of claim 14 wherein the compliant conductive layer comprises a polymer tape having a polymer substrate and a conductive layer on the polymer substrate.

18. (original) The interconnect of claim 14 wherein the compliant conductive layer comprises a conductive polymer comprising a plurality of particles configured to penetrate the component contact.

19. (original) The interconnect of claim 14 further comprising a conductor on the substrate in electrical communication with the compliant conductive layer.

20. (original) The interconnect of claim 14 further comprising a conductive via in the substrate in electrical communication with the compliant conductive layer.

21. (original) The interconnect of claim 14 further comprising a plurality of compliant conductive layers on the substrate corresponding to a plurality of component contacts on the component.

22. (original) The interconnect of claim 14 wherein the component is contained on a semiconductor wafer.

23. (original) An interconnect for a semiconductor component having a plurality of component contacts comprising:

a substrate; and

a plurality of interconnect contacts on the substrate configured to electrically engage the component contacts, each interconnect contact comprising a base portion on the substrate, a shaped spring segment portion on the base portion, and a tip portion on the spring segment portion for contacting a component contact.

24. (original) The interconnect of claim 23 wherein the component is contained on a semiconductor wafer containing a plurality of components and the interconnect contacts are configured to electrically engage all of the component contacts on the wafer.

25. (original) The interconnect of claim 23 wherein the base portion is contained in an opening in the substrate.

26. (original) The interconnect of claim 23 wherein the shaped spring segment portion has a stepped shape.

27. (original) The interconnect of claim 23 wherein the shaped spring segment portion has a generally square shape.

28. (original) The interconnect of claim 23 wherein the shaped spring segment portion has a dome shape.

Claims 29-100 (canceled)